

CLAIMS

1. A method of treating depression comprising administering a therapeutic amount of a antidepressant drug condensation aerosol, having an MMAD less than 3 μm and less than 5% antidepressant drug degradation products, to a patient by inhalation, upon activation by the patient of the formation of, and delivery of, the condensation aerosol.
2. The method of claim 1, wherein said condensation aerosol is formed by
 - a. volatilizing an antidepressant drug under conditions effective to produce a heated vapor of the antidepressant drug; and
 - b. condensing the heated vapor of antidepressant drug to form condensation aerosol particles.
3. The method according to claim 2, wherein said administration results in a peak plasma concentration of said antidepressant drug in less than 0.1 hours.
4. The method of claim 2, wherein the antidepressant drug is selected from the group consisting of bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortriptyline, valproic acid, or protryptyline.
5. The method according to claim 3, wherein the administered aerosol is formed at a rate greater than 0.5 mg/second.
6. The method according to claim 1, wherein at least 50% by weight of the condensation aerosol is amorphous in form.
7. A method of treating depression comprising administering a therapeutic amount of a bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline,

amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline condensation aerosol, having an MMAD less than 3 μm and less than 5% bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline degradation products, to a patient by inhalation, upon activation by the patient of the formation of, and delivery of, the condensation aerosol.

8. The method of claim 7, wherein said condensation aerosol is formed by

a. volatilizing bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline under conditions effective to produce a heated vapor of bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline; and

b. condensing the heated vapor of bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline to form condensation aerosol particles.

9. The method according to claim 7, wherein said administration results in a peak plasma concentration of bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline in less than 0.1 hours.

10. The method according to claim 7, wherein at least 50% by weight of the condensation aerosol is amorphous in form.

11. The method according to claim 7, wherein said bupropion condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 150 mg/L when delivered.
12. The method according to claim 7, wherein said nefazodone condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 200 mg/L when delivered.
13. The method according to claim 7, wherein said perphenazine condensation aerosol has an inhalable aerosol mass density of between 0.5 mg/L and 3 mg/L when delivered.
14. The method according to claim 7, wherein said trazodone condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 100 mg/L when delivered.
15. The method according to claim 7, wherein said trimipramine condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 150 mg/L when delivered.
16. The method according to claim 7, wherein said venlafaxine condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 100 mg/L when delivered.
17. The method according to claim 7, wherein said tranylcypromine condensation aerosol has an inhalable aerosol mass density of between 7.5 mg/L and 20 mg/L when delivered.
18. The method according to claim 7, wherein said citalopram condensation aerosol has an inhalable aerosol mass density of between 10 mg/L and 30 mg/L when delivered.
19. The method according to claim 7, wherein said fluoxetine condensation aerosol has an inhalable aerosol mass density of between 10 mg/L and 30 mg/L when delivered.
20. The method according to claim 7, wherein said fluvoxamine condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 50 mg/L when delivered.

21. The method according to claim 7, wherein said mirtazepine condensation aerosol has an inhalable aerosol mass density of between 7.5 mg/L and 20 mg/L when delivered.
22. The method according to claim 7, wherein said paroxetine condensation aerosol has an inhalable aerosol mass density of between 5 mg/L and 30 mg/L when delivered.
23. The method according to claim 7, wherein said sertraline condensation aerosol has an inhalable aerosol mass density of between 15 mg/L and 50 mg/L when delivered.
24. The method according to claim 7, wherein said amoxapine condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 150 mg/L when delivered.
25. The method according to claim 7, wherein said clomipramine condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 100 mg/L when delivered.
26. The method according to claim 7, wherein said doxepin condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 100 mg/L when delivered.
27. The method according to claim 7, wherein said imipramine condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 100 mg/L when delivered.
28. The method according to claim 7, wherein said maprotiline condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 50 mg/L when delivered.
29. The method according to claim 7, wherein said nortriptyline condensation aerosol has an inhalable aerosol mass density of between 20 mg/L and 50 mg/L when delivered.
30. The method according to claim 7, wherein said valproic acid condensation aerosol has an inhalable aerosol mass density of between 100 mg/L and 400 mg/L when delivered.

31. The method according to claim 7, wherein said protryptyline condensation aerosol has an inhalable aerosol mass density of between 7.5 mg/L and 20 mg/L when delivered.

32. A method of administering an antidepressant drug to a patient to achieve a peak plasma drug concentration rapidly, comprising administering to the patient by inhalation an aerosol of an antidepressant drug having less than 5% antidepressant drug degradation products and an MMAD less than 3 microns wherein the peak plasma concentration of the antidepressant drug is achieved in less than 0.1 hours.

33. A method of administering bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline to a patient to achieve a peak plasma drug concentration rapidly, comprising administering to the patient by inhalation an aerosol of bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline having less than 5% bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline degradation products and an MMAD less than 3 microns wherein the peak plasma drug concentration of bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline is achieved in less than 0.1 hours.

34. A kit for delivering a drug aerosol comprising:

- a) a thin coating of an antidepressant drug composition and
- b) a device for dispensing said thin coating as a condensation aerosol.

35. The kit of claim 34, wherein the antidepressant drug in the composition is selected from the group consisting of bupropion, nefazodone, perphenazine, trazodone, trimipramine, venlafaxine, tranylcypromine, citalopram, fluoxetine, fluvoxamine, mirtazepine, paroxetine, sertraline, amoxapine, clomipramine, doxepin, imipramine, maprotiline, nortryptiline, valproic acid, or protryptyline.

36. The kit of claim 34, wherein the device for dispensing said coating of an antidepressant drug composition as an aerosol comprises

- (a) a flow through enclosure,
- (b) contained within the enclosure, a metal substrate with a foil-like surface and having a thin coating of an antidepressant drug composition formed on the substrate surface,
- (c) a power source that can be activated to heat the substrate to a temperature effective to volatilize the antidepressant drug composition contained in said coating, and
- (d) inlet and exit portals through which air can be drawn through said device by inhalation,

wherein heating the substrate by activation of the power source is effective to form an antidepressant drug vapor containing less than 5% antidepressant drug degradation products, and drawing air through said chamber is effective to condense the antidepressant drug vapor to form aerosol particles wherein the aerosol has an MMAD of less than 3 microns.

37. The kit according to claim 36, wherein the heat for heating the substrate is generated by an exothermic chemical reaction.

38. The kit according to claim 37, wherein said exothermic chemical reaction is oxidation of combustible materials.

39. The kit according to claim 36, wherein the heat for heating the substrate is generated by passage of current through an electrical resistance element.

40. The kit according to Claim 36, wherein said substrate has a surface area dimensioned to accommodate a therapeutic dose of an antidepressant drug composition in said coating.
41. The kit according to claim 34, wherein a peak plasma concentration of antidepressant drug is obtained in less than 0.1 hours after delivery of the condensation aerosol to the pulmonary system.
42. The kit of claim 34, further including instructions for use.